

THAT WHICH IS CLAIMED:

1. An automated method of assessing readiness of a fleet of aircraft comprising:
 - 5 receiving at least one mission request including a date and a number of aircraft;
 - automatically determining relative states of readiness of a plurality of aircraft of the fleet, wherein determining the relative states of readiness comprises automatically analyzing maintenance information associated with the plurality of aircraft to determine the relative states of readiness of the plurality of aircraft on the
10 date of the requested mission; and
 - identifying aircraft that will be capable of performing the requested mission and providing respective measures of the relative states of readiness of the aircraft identified to be capable of performing the requested mission.
- 15 2. A method according to Claim 1 wherein identifying aircraft that will be capable of performing the requested mission comprises identifying the aircraft having the greatest likelihood of completing the requested mission.
- 20 3. A method according to Claim 1 further comprising proposing a modification of the mission request in order to increase the relative states of readiness of the aircraft capable of performing the modified mission in comparison to the relative states of readiness of the aircraft capable of performing the requested mission.
- 25 4. A method according to Claim 1 wherein determining the relative states of readiness further comprises determining the relative states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations.
5. A method according to Claim 4 wherein determining the relative states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations comprises determining the relative states of readiness based upon an intensity function appropriate for the type of process that
30 describes the probability of failure of the aircraft.

6. A computer program product for assessing readiness of a fleet of aircraft, the computer program product comprising a computer-readable storage medium having computer-readable program code portions stored therein, the computer-readable program code portions comprising:

5 a first executable portion for receiving at least one mission request including a date and a number of aircraft;

a second executable portion for automatically determining relative states of readiness of a plurality of aircraft of the fleet, wherein said second executable portion is also capable of automatically analyzing maintenance information associated with
10 the plurality of aircraft to determine the relative states of readiness of the plurality of aircraft on the date of the requested mission; and

a third executable portion for identifying aircraft that will be capable of performing the requested mission, wherein said third executable portion is also capable of providing respective measures of the relative states of readiness of the
15 aircraft identified to be capable of performing the requested mission.

7. A computer program product according to Claim 6 wherein said third executable portion is further capable of identifying the aircraft having the greatest likelihood of completing the requested mission.

8. A computer program product according to Claim 6 further comprising
20 a fourth executable portion for proposing a modification of the mission request in order to increase the relative states of readiness of the aircraft capable of performing the modified mission in comparison to the relative states of readiness of the aircraft capable of performing the requested mission.

9. A computer program product according to Claim 6 wherein said
25 second executable portion is further capable of determining the relative states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations.

10. A computer program product according to Claim 9 wherein
30 determining the relative states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations comprises determining the relative states of readiness based upon an intensity function

appropriate for the type of process that describes the probability of failure of the aircraft.

11. A system for automatically assessing readiness of a fleet of aircraft comprising a processing element capable of receiving at least one mission request
5 including a date and a number of aircraft, said processing element also capable of automatically determining relative states of readiness of a plurality of aircraft of the fleet based upon an automated analysis of maintenance information associated with the plurality of aircraft to determine the relative states of readiness of the plurality of aircraft on the date of the requested mission, and wherein said processing element is
10 further capable of identifying aircraft that will be capable of performing the requested mission and providing respective measures of the relative states of readiness of the aircraft identified to be capable of performing the requested mission.

12. A system according to Claim 11 wherein said processing element is further capable of identifying the aircraft having the greatest likelihood of completing
15 the requested mission.

13. A system according to Claim 11 wherein said processing element is further capable of proposing a modification of the mission request in order to increase the relative states of readiness of the aircraft capable of performing the modified mission in comparison to the relative states of readiness of the aircraft capable of
20 performing the requested mission.

14. A system according to Claim 11 wherein said processing element is further capable of determining the relative states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations.

15. A system according to Claim 14 wherein said processing element is further capable of determining the relative states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations by determining the relative states of readiness based upon an intensity function appropriate for the type of process that describes the probability of failure of
30 the aircraft.

16. An automated method of analyzing maintenance operations performed upon a fleet of aircraft comprising:

automatically analyzing maintenance information associated with the plurality of aircraft to determine relative states of readiness of the plurality of aircraft upon

5 completion of the maintenance operations scheduled for the plurality of aircraft;

providing respective measures of the relative states of readiness of the plurality of aircraft upon completion of the maintenance operations scheduled for the plurality of aircraft; and

10 allocating maintenance resources based upon the respective measures of the relative states of readiness of the plurality of aircraft.

17. A method according to Claim 16 wherein allocating maintenance resources comprises prioritizing the maintenance operations scheduled for the aircraft that will have the greatest state of readiness upon completion of the maintenance operations.

15 18. A method according to Claim 16 wherein determining the relative states of readiness comprises determining the relative states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations.

19. A method according to Claim 18 wherein determining the relative
20 states of readiness based upon respective probabilities of failure of the aircraft following completion of the maintenance operations comprises determining the relative states of readiness based upon an intensity function appropriate for the type of process that describes the probability of failure of the aircraft.

20. An automated method of assessing readiness of a plurality of
25 repairable systems comprising:

receiving at least one system allocation request including a date and a number of systems to be allocated; and

automatically determining relative states of readiness of the plurality of repairable systems, wherein determining the relative states of readiness comprises:

analyzing maintenance information associated with the plurality of repairable systems to determine the repairable systems that will be operational on the date of the requested system allocation; and

- 5 determining respective measures of the relative states of readiness of the repairable systems that will be operational on the date of the requested system allocation based upon respective probabilities of failure of the repairable systems following completion of the maintenance operations.

21. A method according to Claim 20 further comprising identifying systems that will be operational on the date of the requested system allocation.

- 10 22. A method according to Claim 21 further comprising providing the respective measures of the relative states of readiness of the repairable identified to be operational on the date of the requested system allocation.

23. A method according to Claim 21 wherein identifying systems that will be operational on the date of the requested system allocation comprises identifying the systems having the greatest state of readiness on the date of the requested system allocation.
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24. A method according to Claim 21 further comprising proposing a modification of the system allocation request in order to increase the relative states of readiness of the systems identified to be operational on the date of the modified system allocation request in comparison to the relative states of readiness of the systems identified to be operational on the date of the original system allocation request.
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25. A method according to Claim 21 wherein determining the respective measures of the relative states of readiness of the repairable systems comprises determining respective measures of the relative states of readiness of the repairable systems on the date of the requested system allocation based upon an intensity function appropriate for the type of process that describes the probability of failure of the repairable systems.
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26. An automated method of analyzing maintenance operations performed upon a plurality of repairable systems comprising:
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analyzing maintenance information associated with the plurality of repairable systems to determine relative states of readiness of the plurality of repairable systems;

- 5 determining respective measures of the relative states of readiness of the repairable systems based upon respective probabilities of failure of the repairable systems following completion of the maintenance operations; and
- allocating maintenance resources based upon the respective measures of the relative states of readiness of the plurality of repairable systems.

27. A method according to Claim 26 wherein allocating maintenance resources comprises prioritizing the maintenance operations scheduled for the
- 10 repairable systems that will have the greatest state of readiness upon completion of the maintenance operations.

28. A method according to Claim 26 wherein determining the relative states of readiness comprises determining the relative states of readiness based upon respective probabilities of failure of the repairable systems following completion of
- 15 the maintenance operations.

29. A method according to Claim 26 wherein determining the respective measures of the relative states of readiness of the repairable systems comprises providing respective measures of the relative states of readiness of the repairable systems that will be operational on the date of the requested system allocation based
- 20 upon an intensity function appropriate for the type of process that describes the probability of failure of the repairable system.